
Journalists Perception on the Intersection of Artificial Intelligence, Journalisms, and Ethics.

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ABSTRAK

This study explores the perceptions of Indonesian's journalists and academics on the use of AI in journalism, focusing on its benefits, risks, and ethical dilemmas. It aims to assess the extent of AI use by Indonesian's journalists, investigate how AI might alter news production and work routines, and examine ethical challenges, particularly regarding AI-generated images in media content. To achieve this, 28 in-depth semi-structured interviews were conducted with Indonesian's journalists and academics, followed by thematic analysis to identify key themes. Findings suggest that AI use in Indonesian's journalism is in its early stages, with no formal training, strategy, or framework in place. Ethical concerns, such as data bias, transparency, privacy, and copyright, are evident among journalists and academics, further intensified by the absence of a regulatory framework.

Penelitian ini mengeksplorasi persepsi jurnalis dan akademisi Indonesia tentang penggunaan kecerdasan buatan (AI) dalam jurnalisme, dengan fokus pada manfaat, risiko, dan dilema etika yang dihadapi. Tujuannya adalah untuk menilai sejauh mana penggunaan AI oleh jurnalis Indonesia, menyelidiki bagaimana AI dapat mengubah produksi berita serta tantangan berupa etika, terutama terkait dengan gambar yang dihasilkan oleh AI dalam konten media. Temuan menunjukkan bahwa penggunaan AI dalam jurnalisme di Indonesia masih dalam tahap awal, dengan tidak adanya pelatihan formal, strategi, atau kerangka kerja yang ada. Tantangan terhadap etika, seperti bias data, transparansi, privasi, dan hak cipta, jelas terlihat di kalangan jurnalis, yang semakin diperburuk oleh tidak adanya kerangka kerja regulasi.

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INTRODUCTION

Over the past few decades, AI has transitioned from the realm of science fiction to become an integral part of our daily lives, reshaping nearly every facet of modern society. It has enhanced our capabilities in various areas, such as driving, avoiding traffic, connecting with friends, choosing the perfect movie, and even cooking healthier meals (Perc, M.; Ozer, M.; Hojnik, J., 2019).

Today, AI-powered technologies significantly impact industries ranging from scientific discovery and healthcare to smart cities, transportation, and sustainability (Perc, M.; Ozer, M.; Hojnik, J., 2019). From virtual or text-based assistants like Siri, Alexa, and ChatGPT that aid with daily tasks to advanced algorithms and machine learning models capable of driving autonomous vehicles or diagnosing diseases with impressive accuracy, AI is transforming our world while also introducing significant challenges and risks.

Among these transformations, the integration of AI into journalism has sparked intense debates regarding its potential negative impacts, particularly concerning content quality and ethical implications (Newman, N. 2020; Gomez-Diago, G. 2022; Noain-Sanchez, A., 2022). However, the use of AI in journalism also offers various benefits (Gomez-Diago, G.

2022). For instance, AI can enhance productivity and efficiency by alleviating journalists from certain routine tasks (Diakopoulos, N. 2019).

It's crucial to emphasize that the discussion on AI's impact on journalism is part of a broader conversation on media digitization and the transition to a journalistic ecosystem that leverages applications, algorithms, and social media to transform traditional journalism (Bentivegna, S.; Marchetti, R., 2018). In this context, AI technologies, regardless of their short-term or long-term influence, are integral to the overarching framework of technological change reshaping journalism (Broussard, M.; Diakopoulos, N.; Guzman, A.; Abebe, R.; Dupagne, M.; Chuan, C.-H., 2019).

This study addresses the gap by investigating the perceptions of Indonesian's journalists regarding AI's role in journalism, focusing on its integration into the news production process and examining its potential benefits, shortcomings, risks, and associated ethical concerns. The Indonesian media system faces several structural challenges, including a high concentration of ownership, limited financial resources, and a difficult economic environment.

Moreover, the adoption of new technologies has been relatively slow

(Pavlik, J., 2000), constrained by economic limitations and a lack of investment in innovation. In this context, by adding Indonesian's experience as a microcosm for understanding AI's impact on journalism, this research enriches the international literature on the future of AI in the media industry. It offers valuable insights not only for pioneering environments but also for media systems facing economic strain and technological transition, highlighting both opportunities and challenges in contexts marked by limited resources and linguistic diversity.

To bridge the existing gap in understanding, this research aims to explore critical inquiries concerning the perceptions and experiences of Indonesia journalists regarding the integration of artificial intelligence (AI) in the field of journalism. Specifically, it seeks to ascertain their insights on the practical applications of AI within the profession, as well as their viewpoints on the ethical challenges and dilemmas that arise from its implementation. Through this investigation, the study aspires to contribute to a more nuanced discourse on the implications of AI in journalism.

This paper primarily seeks to achieve three objectives: first, to assess the extent to which Indonesian's journalists utilize AI tools; second, to explore the views of journalists and academics on the

transformative effects of AI on news production methodologies, work practices, and employment dynamics within the field; and third, to evaluate the ethical dilemmas and challenges posed by AI applications in journalism, with particular emphasis on AI-generated imagery in media content.

To attain these aims, a series of 28 in-depth semi-structured interviews were conducted with a sample of Indonesian journalists. Thematic analysis was employed to uncover recurring themes, patterns, and salient ideas. This paper commences with an analysis of the most significant research exploring the intersection of journalism and artificial intelligence. Following this, the methodology employed in this study is delineated, leading to a discussion of the findings, which emphasize the ethical challenges associated with the integration of AI within the field of journalism.

LITERATURE REVIEW

Technology in Journalism

Throughout the history of media, various technologies, including print, radio, and television, have played a pivotal role in shaping journalism (Pavlik, J., 2000). Notably, only a decade and a half ago, the presence of mobile journalists—equipped with laptops, digital cameras, and direct content upload capabilities—was scarce in newsrooms. As technological advancements accelerated, journalists were

compelled to refine their methods accordingly. In recent years, the rapid evolution of technology has not only transformed numerous facets of human life but has also significantly altered how journalists interact with the external world. Moreover, digital tools have streamlined editorial processes, enhancing tasks such as editing, proofreading, visualization, and content design.

The historical context of the role of technology in journalism is a fascinating journey that spans several centuries. Beginning with the invention of the printing press by Johannes Gutenberg in the 15th century, which revolutionized the mass production of written materials, journalism continued to evolve with the advent of the telegraph in the 1830s, enabling faster communication over long distances. The 1850s introduced photography, enhancing the storytelling capabilities of newspapers and magazines. The 20th century saw the rise of radio broadcasting in the 1920s, providing real-time news coverage, and television in the 1950s, which transformed news consumption with visual and audio content. The late 20th century brought the digital revolution, with personal computers and the internet giving rise to online news portals and social media platforms in the 2000s, allowing real-time updates and user-generated content. In the 21st century, AI and big data analytics have further

transformed journalism by enhancing news production, content personalization, and audience analysis, making automated reporting and data journalism more prevalent.

Artificial Intelligence AI in Journalism

The conceptual foundation for artificial intelligence (AI) was laid by Alan Turing, who is widely recognized as the father of computer science and AI. In his 1950 paper "Computing Machinery and Intelligence," Turing proposed that computers could exhibit intelligent behaviour and introduced the Turing test to measure a machine's ability to imitate human responses. Building on Turing's pioneering work, John McCarthy coined the term "artificial intelligence" in 1956 [4], defining AI as "the science and engineering of making intelligent machines," with the goal of creating systems capable of performing tasks typically requiring human intelligence.

This enduring definition is echoed by Beckett, who describes AI as a "collection of ideas, technologies, and techniques related to a computer system's ability to perform tasks usually requiring human intelligence" (Beckett, C., 2019). These tasks encompass learning, reasoning, problem-solving, perception, and language understanding, among others. To achieve such tasks, cognitive technologies rely on

two fundamental characteristics: (a) autonomy and (b) the ability to learn from experience (Noain-Sanchez, A., 2022).

The use of AI is described by various terms, each emphasizing different aspects of its application in the field. Some of the most common terms include automated journalism, which refers to the use of algorithms and software to automatically generate news articles from data, such as financial reports, sports results, and other data-driven stories, without human intervention (Casswell, D.; Dorr, K., 2018). Algorithmic journalism goes beyond automated writing to include the use of algorithms for tasks like data analysis, content recommendation, and audience engagement (Kotenidis, E.; Veglis, A., 2021). Computational journalism encompasses the use of computational techniques for gathering, analyzing, and presenting news (Linden, C.-G., 2017). Lastly, robot journalism emphasizes the role of “robots” or AI systems in generating news content, often highlighting the narrative that machines are taking over certain aspects of journalistic work (van Dalen, A., 2012).

One of the earliest efforts to integrate AI into journalism was led by the Associated Press (AP) in the early 2010s when they collaborated with Automated Insights to utilize their technology (Sun, M.; Hu, W.; Wu, Y., 2022). This

partnership enabled the news agency to automatically generate earnings reports for thousands of companies, a task that had previously required considerable time from journalists (Greenslade, R., 2014). The use of AI allowed AP—and other news organizations such as Reuters (Sun, M.; Hu, W.; Wu, Y., 2022)—to quickly produce accurate and consistent reports on financial data, sports results, and other structured datasets. This innovation freed human journalists to focus more on investigative and in-depth reporting rather than data processing, as highlighted by AP's managing director, Lou Ferrara (van Dalen, A., 2012). According to Sun et al. (Sun, M.; Hu, W.; Wu, Y., 2022), major global media outlets like Reuters and The New York Times consider the "intelligent editing process" to be a significant innovation that integrates AI technology into the core business of news production.

AI Integration in Newsgathering, Production, and Distribution

The literature on AI and journalism has been rapidly expanding. Numerous studies globally explore the application of AI to journalism, examining both the opportunities and challenges presented by this technological development. According to (Beckett, C., 2019), AI in journalism operates in three main areas: newsgathering, production, and news

distribution. In his comprehensive survey of AI and related technologies across 71 news organizations from 32 countries, nearly half of the respondents reported using AI for newsgathering, two-thirds for production, and just over half for news distribution (Beckett, C., 2019).

AI activities for newsgathering encompass not only the collection of material and sourcing of information but also assisting editorial teams in determining what will interest users, generating story ideas, identifying trends, and extracting relevant information or content (Beckett, C., 2019). Concurrently, AI is revolutionizing journalism in news production, where algorithms can autonomously generate news stories. This technology, exemplified by the Associated Press, is particularly effective for producing data-driven reports such as financial updates, sports results, and weather forecasts.

Automated journalism can produce content at a speed and volume that exceeds human capability, allowing news organizations to cover more topics and provide timely updates (Clerwall, C., 2014). Additionally, AI tools such as natural language processing (NLP) and machine learning are aiding journalists in their research and writing processes by analysing large datasets, identifying trends, and suggesting story angles. In fact, AI can

enhance investigative journalism by uncovering hidden patterns in vast amounts of data, enabling journalists to produce more in-depth and comprehensive stories (Casswell, D.; Dorr, K., 2018).

AI is significantly impacting news dissemination. Personalized news delivery systems employ machine learning algorithms to tailor content to individual preferences and behaviors. Meijer, I.C.; Kormelink, T.G. (2020) point out that by presenting readers with articles relevant to their interests, these systems can boost user engagement and increase the likelihood that users will consume the news content.

However, the application of AI in news distribution brings concerns, particularly regarding the creation of "filter bubbles" (Helberger, N.; van Drunen, M.; Moeller, J.; Vrijenhoek, S.; Eskens, S. 2022), where users are only exposed to news that supports their existing beliefs and opinions. This can lead to a fragmented and polarized information landscape. Pariser, E. (2011) highlighted the dangers of personalized algorithms that prioritize user preferences over journalistic objectivity. This approach can potentially undermine the media's democratic role in providing a balanced and diverse range of perspectives, posing a significant challenge to maintaining journalistic integrity and a well-informed public.

METHODOLOGY

This study draws on 28 semi-structured in-depth interviews with 12 journalists from various Indonesia media outlets, including online platforms, television, and newspapers, and 7 academics from Muhammadiyah University of Luwuk Banggai. The deliberate inclusion of both journalists and academics aims to provide a comprehensive analysis of the intersection of AI, ethics, and journalism within the Indonesian context. Academics, as experts in media systems and AI technologies, offer critical theoretical perspectives that complement the practical insights of journalists. This dual approach allows for a deeper understanding of the topic, bridging the gap between theoretical knowledge and practical application. Academics can identify broader implications, regulatory challenges, and ethical concerns that may not be immediately apparent to practitioners. This sampling strategy has been effectively used in previous studies on the subject, such as those by Sandoval-Martin, M.T.; La-Rosa, L. (2018), Noain-Sanchez, A. (2022), Gomez-Diago, G. (2022), and Sandoval-Martín and La-Rosa [34], which have highlighted the evolving role of AI in journalism and its ethical implications.

The final sample consisted of 28 participants, including 16 males and 12

females, ensuring balanced gender representation. Participants' ages ranged from their 20s to their 50s, encompassing both early-career and experienced professionals. Journalists in the sample worked across various platforms, including online news outlets, newspapers, television, and freelance journalism, holding roles such as editors, investigative journalists, reporters, and content creators. Academics' research interests included media ethics, AI in journalism, and digital transformation in media systems, with several occupying leadership positions in academic institutions. To maintain anonymity, participants were referred to as PJ (participating journalists) or PA (participating academics). All interviews followed a previously designed semi-structured interview guide, with two versions tailored to address specific aspects of each group's experiences and expertise. This approach ensured that the study captured diverse perspectives while maintaining consistency across thematic axes.

The interview guide was organized around six key areas, each grounded in prior scholarly research to ensure the questions were based on established theoretical frameworks while addressing important topics. The first area explores the profiles of participants and their relationship with technology in their

journalistic work or their research interests in journalism and AI. The second area examines participants' perceptions of significant changes in the journalism landscape over the past decade and the role of technology in these changes. The third area investigates participants' perceptions and experiences regarding the application of AI in the Indonesian's journalistic context, including the types of AI applications used, training of journalists, and media planning for AI integration. The fourth area explores participants' views on the positive and negative changes that AI implementation in journalism may bring. Finally, the fifth area examines participants' perceptions of the ethical challenges and dilemmas raised by the use of AI in journalism.

After conducting and transcribing the interviews, a thematic analysis was applied to process the data, serving as a fundamental qualitative method. The conceptual framework for this analysis was primarily based on the theoretical positions of Braun, V.; Clarke, V. (2006). They describe thematic analysis as a method for “identifying, analysing, and reporting patterns (themes) within the data”, with the goal of generating insightful analyses that address specific research questions.

The analysis began with a thorough review of the dataset (phase 1). In phase 2, participants' responses were examined to

identify initial codes, and a coding scheme was developed. These codes were grouped into thematic categories (phase 3), and a thematic map was created using Canvas for further analysis (phase 4). In phase 5, the themes were refined, and in phase 6, relevant extracts from the interviews were selected and organized under appropriate themes to produce the analysis report. To ensure reliability, researchers developed and tested a coding scheme and collaboratively finalized emerging themes and sub-themes. The goal was to identify common themes, patterns, and ideas regarding the integration of AI tools in Indonesian journalism, the anticipated changes, and the ethical challenges, particularly concerning AI-generated images.

RESULTS AND DISCUSSION

Research results indicate that both journalists and academics share similar views on AI adoption in journalism, agreeing that its integration is still in its early stages. Journalists highlighted practical challenges like the lack of training and tools, and concerns about AI potentially replacing core journalistic functions and threatening job security. Academics, on the other hand, offered a broader perspective, focusing on systemic issues such as the absence of regulatory frameworks and ethical implications of AI in journalism.

While journalists were more concerned with the immediate impact on their workflows, academics often discussed algorithmic bias risks and societal consequences, framing the discussion around aligning AI implementation with collective human values and a clear vision for the future.

Most participating journalists hold university degrees in journalism and mass communications, and describe themselves as proficient with technology, using it daily in their work. Meanwhile, all participating academics focus their research on AI and media, making them experts in the field. Journalists highlighted the closure of major media outlets in Indonesia over the past decade, significantly impacting the media market. For instance, many newspapers and TV channels closed down, leading to widespread job losses and forcing journalists to adapt to new roles.

Participants agreed that technological advancements and Web 2.0 have driven many significant changes in journalism. These include the shift from traditional media to online platforms, the rise of social media, the need for constant information flow, time pressure, two-way communication with the public, audience fragmentation, and the transformation of journalists into multi-skilled professionals. Technological developments have completely transformed journalism,

requiring journalists to manage a diverse set of skills to adapt to the evolving media landscape.

The thematic analysis showed that nearly all participants, except for 2 out of 28, agree that AI is being applied in Indonesian journalism, although it is still in its early stages. This indicates that AI is currently in an experimental phase, not yet fully integrated into newsgathering and production processes.

Most journalists reported limited use of AI in newsgathering and production, primarily for tasks such as machine translation, transcription, image editing or creation, background noise removal, and subtitle generation. Some journalists used language models like ChatGPT as language assistants and idea generators, while investigative journalists utilized data analysis applications to manage large volumes of documents. Many journalists used verbs like “play,” “experiment,” and “try” to describe their engagement with AI, highlighting an exploratory approach to its integration.

For instance, PJ-1 mentioned using AI tools for daily tasks like image editing, while PJ4 highlighted the transformative impact of automatic transcription technology. PJ-8 uses ChatGPT for text assistance without direct copying, and PJ-9 extensively uses AI for processing large databases in investigative journalism.

Interestingly, some participants initially claimed not to use AI, but upon further questioning, it was revealed they use various AI tools without recognizing them as such, like PJ-7, who uses Deep Learning for translation and other transcription apps. In conclusion, while AI is still in its early stages of integration into Indonesian's journalism, it is gradually becoming a valuable tool for tasks like translation, transcription, image editing, and data analysis, enhancing investigative efforts and automating routine journalistic processes.

Barriers

Participants identified several reasons for the limited use of AI in Indonesian journalism. They highlighted a general delay in embracing new technologies due to cultural, economic, and structural factors that inhibit quick adaptation. Media owners in Indonesian also lack of well-defined plans for incorporating AI, resulting in underutilized AI tools. Additionally, there is scepticism and fear among media professionals, often due to inadequate knowledge and training in AI technologies, and language constraints, as some AI tools are not well-suited for Indonesian. For instance, PJ-6 mentioned the absence of specific policies and frameworks within organizations regarding AI implementation. PA-6 expressed concerns

about AI's reliability and the lack of transparency in how it works, while PJ-9 noted the limited linguistic resources available for AI tools in Indonesian. These factors contribute to the cautious and experimental approach towards AI in Indonesian journalism.

In summary, the limited use of AI in Indonesian journalism is attributed to cultural, economic, and structural barriers, a lack of clear strategies from media owners, insufficient training for journalists, language limitations, and scepticism about AI's reliability. These challenges align with previous research highlighting the slow adoption of new technologies due to economic constraints and limited investment in innovation.

The Role of AI in Journalism

Participants expect several positive changes from AI in journalism. Firstly, they anticipate AI will facilitate or automate certain tasks, such as writing financial reports or sports results, which have predictable structures. Secondly, they believe AI can save time, allowing journalists to focus on more creative tasks. Thirdly, participants highlighted AI's ability to analyse large datasets quickly and comprehensively, significantly reducing the time needed to process multi-page documents and minimizing the risk of missing important information.

Overall, the research findings suggest that while AI is anticipated to bring positive changes to journalism, such as automating repetitive tasks, saving time, and enhancing data analysis, there are significant concerns about its impact on content quality, job displacement, and public trust. Journalists recognize the potential for AI to improve workflow efficiency, but they remain cautious about its negative consequences, including the possible erosion of creativity in journalism. Many emphasize the need for AI to complement, rather than replace, human judgment and expertise in the journalistic process.

Ethical Challenges of AI in Journalism

Participants identified several ethical dilemmas and challenges associated with the use of AI in journalism. Concerns include issues of transparency and accountability for AI-generated content, particularly regarding who is responsible for the content and any potential errors. Additionally, there are worries about the protection of personal data, copyright issues, challenges related to algorithmic bias, and the boundaries between humans and AI. PA-7 highlighted the risk of relying too heavily on AI tools, noting the lack of control over technology owned by private organizations. PJ-2 pointed out the danger of misinformation when relying on AI for writing or designing articles, including

visual content. PJ-9 emphasized the need for human verification in AI-generated reports to ensure accuracy. Overall, these challenges underscore the importance of considering the ethical implications of AI in journalism, especially regarding the balance between technological advancement and human oversight in producing reliable and trustworthy content.

The Use of AI-Generated Images in Journalism

Participants acknowledged the benefits of AI-generated images, particularly in situations where access to the actual location was denied. These images provide a valuable approximation of the scene, offering readers a sense of the context. They highlighted that AI constructs can capture narratives effectively, engaging readers and helping to bring attention to important topics that might otherwise be overlooked without visual accompaniment.

However, concerns were raised about the potential for AI-generated images to lead to misinformation, as they may not accurately represent reality. There is also a risk of confusion among readers, especially if they do not notice the captions indicating that the images are AI-generated. Some participants suggested that sketches might be more appropriate than AI-generated images to avoid misleading the audience.

Overall, while AI-generated images can enhance storytelling and engage readers, it is crucial to maintain transparency about their origins to prevent misinformation and ensure that the audience understands the context and limitations of these visuals.

The concerns and disadvantages of AI-generated images in journalism are significant. Many participants expressed that reliance on these images can lead to misinformation, as they do not accurately represent reality and may confuse readers, especially if they overlook captions. Some suggested that sketches might be more suitable than AI-generated images, as the latter can mislead the audience.

PJ-1 highlighted the ethical issue, stating that AI-generated images are fabricated and do not represent the truth, making them unsuitable for publication. PJ-3 agreed, emphasizing that sketches would be a clearer way to convey accounts without misleading readers. PJ-5 added that while AI-generated images might work artistically, they do not hold up journalistically, and sketches would be a better representation of reality.

Overall, participants underscored the potential for AI-generated images to misinform and confuse readers, advocating for more transparent and accurate visual representations, such as sketches, in journalism.

While AI-generated images can provide visual context, many participants expressed concerns that they may undermine the core values of photojournalism and the efforts of journalists working in challenging environments. Some believe that AI-generated images could degrade the hard work of photojournalists who report from difficult areas, as it may replace the need for authentic, on-the-ground photos.

Others worry that the economic efficiency of AI-produced images, which can be created quickly, could diminish the value of traditional photojournalism. Despite these concerns, some academics remain optimistic, emphasizing the irreplaceable need for genuine photographs that accurately depict real events, which AI models cannot fully replicate based on descriptions alone.

Overall, there is a tension between the potential benefits of AI-generated images and the importance of maintaining the integrity and authenticity of photojournalism, with many participants advocating for a balanced approach that respects the unique contributions of human journalists.

In summary, while AI-generated images provide visual representations of inaccessible spaces, they raise significant ethical concerns in journalism, mainly due to the risk of misinformation and distortion

of reality. Participants argue that AI images can mislead audiences, especially if captions are overlooked, and suggest that sketches might be more appropriate. Additionally, the rise of AI-generated images threatens the core values of photojournalism and undermines the work of journalists in challenging environments, highlighting the importance of transparency and maintaining journalistic integrity.

The Urgent of a Regulatory Framework for AI in Journalism

Participants emphasized the necessity of transparency in using AI-generated images, suggesting measures such as clearly indicating the use of AI tools, applying watermarks, and providing detailed prompt descriptions to maintain ethical standards. There is a consensus on the urgent need for a regulatory framework to guide journalists in the responsible use of AI, ensuring that ethical considerations are prioritized. PJ-2 highlighted the importance of indicating that the image is AI-generated, PJ-8 suggested using watermarks, and PA-3 recommended communicating the exact prompts used in AI applications. Additionally, PA-4 and PA-5 emphasized the need for transparency at all stages and the establishment of best practices and regulations. Overall, the research findings indicate that creating a regulatory framework is essential to guide the

responsible use of AI in journalism and maintain trust and integrity in the industry.

Discussion

This study examined the perceptions and experiences of journalists and academics in regarding AI integration into journalism, focusing on the ethical challenges it poses. The study characterized by limited resources and language constraints, revealing both opportunities and challenges in less advantaged media landscapes.

Research findings show that while AI is increasingly being integrated into journalism, its application remains largely experimental. Most journalists and academics view AI as a tool that can assist in routine tasks like transcription, translation, and data analysis. Despite this optimism, they remain cautious about AI's potential to undermine core journalistic values such as transparency and accuracy and to introduce bias, which are fundamental to journalism ethics.

The use of AI-generated images in journalism has sparked significant debate among participants. While some acknowledged the benefits of providing visual representations of inaccessible locations, the prevailing sentiment was scepticism. Participants expressed concerns that AI-generated visuals do not accurately depict reality and could mislead audiences,

particularly if captions are overlooked. Many suggested that sketches might be more appropriate for conveying such narratives, emphasizing the need for accuracy and integrity in visual journalism. To avoid misleading representations, participants highlighted the importance of ensuring that audiences are aware when content is AI-generated, advocating for the use of clear indicators such as watermarks.

Overall, participants stressed the need for a regulatory framework and established guidelines to govern the ethical use of AI in journalism, advocating for collective action within the industry to address these issues. The lack of regulation could make it harder to use AI technologies responsibly, exacerbating existing ethical problems. Journalistic ethical guidelines in Indonesia must be updated by journalists' unions to establish clear standards, enhancing the understanding and responsible use of AI in newsrooms. Scholars have highlighted that AI's presence often goes unnoticed by journalists, making it crucial to establish clear guidelines as a starting point for fostering constructive discussion.

AI literacy training is essential for all professionals within the news ecosystem, from editors and reporters to content creators. Additionally, media organizations should be consulted on how to strategically integrate AI into their planning. This approach will ensure responsible and

ethical AI use, maintaining trust and integrity in journalism.

CONCLUSION

This study examined the extent to which AI tools are used by journalists in Indonesia, evaluating the benefits, potential risks, and ethical challenges they present. While acknowledging AI's groundbreaking potential, the findings reveal that its application in journalism remains largely experimental, especially in countries like Indonesia, where economic and linguistic constraints, limited resources, and inadequate training infrastructure pose significant barriers. By analysing this smaller media ecosystem, the study enriches the global discourse on AI in journalism, offering insights into the opportunities and challenges in resource-limited contexts. Placing Indonesian's journalism within the global AI debate highlights its improvisational approach compared to better-resourced media markets. Despite this, it provides valuable insights into the potential risks of adopting AI without adequate preparation or oversight. Participants emphasized ethical challenges associated with AI-generated content, particularly misinformation and bias, and stressed the need for dialogue among stakeholders to address AI's complexities in media while maintaining journalistic integrity, accuracy, and ethical standards. This highlights the urgent need

for localized regulatory frameworks that align with international best practices and address region-specific challenges. To bridge the gaps identified, journalists' unions, policymakers, academics, and media organizations should prioritize measures such as AI literacy programs and establishing ethical guidelines. However, it is important to acknowledge the study's limitations, including the small sample size and the qualitative approach, suggesting that broader, mixed-method studies could provide more comprehensive insights. Balancing technological innovation with ethical responsibility remains a significant challenge for journalism worldwide, with the human touch—embodied in journalists' insight, judgment, and critical thinking—remaining essential.

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